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EXAMINER
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ABEL JALIL, NEVEEN

ART UNIT	PAPER NUMBER
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2165

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/605,553

Applicant(s)

BLACK, DAVID

Examiner

Neveen Abel-Jalil

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-2, 4-15, 17-19, 21-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-15,17-19 and 21-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Remarks

1. The Request for Reconsideration filed on July 7, 2005 has been received and entered.

Claims 1-2, 4-15, 17-19, 21-32 are pending.

2. The 112<sup>2nd</sup>. Rejection with regards to claims 15, 17-19, 21-32 is hereby withdrawn however the recitation of "being usable" construes "intended use" limitation and will not be given patentable weight.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2, and 4-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "can be used" and "cannot be used" in claims 1-2, and 4-14 are optional use term and therefore is indefinite. A recitation of the optional use of the claimed invention does not have a boundary making it difficult to the Examiner to find what is being excluded or included with the steps of the claim. See MPEP 2173.05(i).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Baranovsky et al. (U.S. Patent No. 5,897,661).

As to claim 26, Baranovsky et al. discloses a host computer, comprising:  
a processing unit (See Baranovsky et al. column 8, lines 36-67); and  
an enterprise logical volume identifier (ELVID) interface module to transmit an access request for at least one of a plurality of logical volumes over a network, the access request including an ELVID for the at least one of the plurality of logical volumes and a respective physical storage location on one of a plurality of storage systems, the ELVID unique identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems (See Baranovsky et al. column 8, lines 36-67, also see Baranovsky et al. column 13, lines 29-67, and see Baranovsky et al. column 10, lines 1-44, also see Baranovsky et al. column 14, lines 30-51).

***Claim Rejections - 35 USC § 103***

Art Unit: 2165

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 4-15, 17-19, 21-25, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baranovsky et al. (U.S. Patent No. 5,897,661) in view of Hubis et al. (U.S. Patent No. 6,343,324 B1).

As to claim 1, Baranovsky et al. discloses a method of accessing one of a plurality of logical volumes stored on a plurality of storage systems in an enterprise, the one of the plurality of logical volumes being stored on at least one of the storage systems, the method comprising steps of:

receiving from a host computer an access request to access data stored on the one of the plurality of logical volumes, the access request specifying an enterprise logical volume identifier (ELVID) for the one of the plurality of the logical volumes and a physical storage address for the one of the plurality of logical volumes, wherein the ELVID uniquely identifies the one of the plurality of logical volumes among the plurality of logical volumes, so that the ELVID can be used to access the one of the plurality of logical volumes on at least two of the plurality of storage systems, and wherein the physical storage address specifies one of the plurality of storage systems in the enterprise (See Baranovsky et al. column 8, lines 36-67, also see Baranovsky et al. column 13, lines 29-67, and see Baranovsky et al. column 10, lines 1-44, also see Baranovsky et al. column 14, lines 30-51).

Baranovsky et al. does not teach in response to the access request, verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems specified in the physical storage address.

Hubis et al. teaches in response to the access request, verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems specified in the physical storage address (See Hubis et al. figure 3B, shows “access not permitted”, also see Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Baranovsky et al. to include in response to the access request, verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems specified in the physical storage address.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Baranovsky et al. by the teaching of Hubis et al. to include in response to the access request, verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems specified in the physical storage address because it provides for security and to avoid error and corruption of information (See Hubis et al. column 1, lines 25-35).

As to claim 2, Baranovsky et al. as modified discloses comprising, a step of maintaining an ELVID database that includes ELVIDs and a corresponding physical storage location (See Baranovsky et al. column 6, lines 32-65, also see Baranovsky et al. column 13, lines 6-28).

As to claim 4, Baranovsky et al. as modified discloses wherein the step of verifying is performed by one of the plurality of storage systems (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

As to claim 5, Baranovsky et al. as modified discloses comprising a step of maintaining an ELVID database at each storage system, the respective ELVID database including ELVIDs stored at the respective storage system and a corresponding physical storage location (See Baranovsky et al. column 6, lines 32-65, also see Baranovsky et al. column 13, lines 6-28).

As to claim 6, Baranovsky et al. as modified discloses wherein the step of verifying is performed by a storage management controller (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

As to claim 7, Baranovsky et al. as modified discloses wherein the step of verifying is performed by one of the storage systems (See Hubis et al. column 3, lines 48-59, also see Hubis

Art Unit: 2165

et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

As to claim 8, Baranovsky et al. as modified discloses wherein the one of the plurality of logical volumes is a conventional logical volume (See Hubis et al. column 4, lines 40-64).

As to claim 9, Baranovsky et al. as modified discloses wherein the one of the plurality of logical volumes is a component of a conventional logical volume (See Hubis et al. column 4, lines 40-64).

As to claim 10, Baranovsky et al. as modified discloses wherein the one of the plurality of logical volumes is a hyper-volume (See Baranovsky et al. column 5, lines 34-65).

As to claim 11, Baranovsky et al. as modified discloses wherein the one of the plurality of logical volumes is a striped volume (See Baranovsky et al. column 5, lines 51-65).

As to claim 12, Baranovsky et al. as modified discloses wherein the one of the plurality of logical volumes is a partition (See Baranovsky et al. column 5, lines 34-50).

As to claim 13, Baranovsky et al. as modified discloses comprising a step of assuring that the host computer that issued the access request is authorized to access the one of the plurality of



Art Unit: 2165

logical volumes (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

As to claim 14, Baranovsky et al. as modified discloses further comprising a step of:  
maintaining an ELVID database at each storage system (See Baranovsky et al. column 6, lines 1-15), the respective ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID (See Hubis et al. column 4, lines 40-67).

As to claim 15, Baranovsky et al. discloses a method of accessing one of a plurality of logical volumes stored on a plurality of storage systems in an enterprise, the one of the plurality of logical volumes being stored on at least one of the storage systems, the method comprising steps of:

receiving from the host computer an enterprise logical volume identifier (ELVID) for the one of the plurality of logical volumes (See Baranovsky et al. column 8, lines 36-67, also see Baranovsky et al. column 10, lines 1-44, also see Baranovsky et al. column 14, lines 30-51);

receiving from the host computer a physical storage address for the one of the plurality of logical volumes (See Baranovsky et al. column 6, lines 32-65, also see Baranovsky et al. column 13, lines 6-28); and

the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes

Art Unit: 2165

on at least two of the plurality of storage systems (See Baranovsky et al. column 10, lines 1-44, also see Baranovsky et al. column 14, lines 30-51).

Baranovsky et al. does not teach using the ELVID to assure that an entity requesting access to the one of the plurality of logical volumes is authorized to do so.

Hubis et al. teaches using the ELVID to assure that an entity requesting access to the one of the plurality of logical volumes is authorized to do so (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Baranovsky et al. to include using the ELVID to assure that an entity requesting access to the one of the plurality of logical volumes is authorized to do so.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Baranovsky et al. by the teaching of Hubis et al. to include using the ELVID to assure that an entity requesting access to the one of the plurality of logical volumes is authorized to do so because it provides for security and to avoid error and corruption of information (See Hubis et al. column 1, lines 25-35).

As to claim 17, Baranovsky et al. as modified discloses wherein the step of using is performed by one of plurality the storage system (See Baranovsky et al. column 2, lines 28-62).

As to claim 18, Baranovsky et al. as modified discloses wherein the step of using comprises a step of accessing an ELVID database (See Baranovsky et al. column 10, lines 1-44, also see Baranovsky et al. column 14, lines 30-51).

As to claim 19, Baranovsky et al. as modified discloses wherein the step of using is performed by a storage management controller (See Hubis et al. column 4, lines 40-64, and see Hubis et al. column 7, lines 22-38).

As to claim 21, Baranovsky et al. as modified discloses further comprising a step of: maintaining an ELVID database at each storage system (See Baranovsky et al. column 6, lines 1-15), the respective ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID (See Hubis et al. column 4, lines 40-67).

As to claim 22, Baranovsky et al. as modified discloses wherein the step of using comprises a step of accessing an ELVID database (See Baranovsky et al. column 6, lines 1-15), the ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID (See Hubis et al. column 4, lines 40-67).

As to claim 23, Baranovsky et al. as modified discloses wherein the entities are user accounts (See Baranovsky et al. column 6, lines 1-15, also see Hubis et al. column 8, lines 6-42).

As to claim 24, Baranovsky et al. as modified discloses wherein the entities are host computers (See Hubis et al. column 8, lines 6-42).

As to claim 25, Baranovsky et al. as modified discloses wherein the entities are applications running on host computers (See Hubis et al. column 7, lines 22-37).

As to claim 27, Baranovsky et al. discloses a storage system for use in an enterprise comprising a plurality of storage systems coupled by a network, the plurality of storage systems to store a plurality of logical volumes, the storage system comprising:

an input for receiving an access request that includes an enterprise logical volume identifier (EVLID) for a logical volume and a physical storage address that identifies one of the plurality of storage systems (See Baranovsky et al. column 13, lines 1-37, also see Baranovsky et al. column 5, lines 1-19);

a storage medium to store data corresponding to the plurality of logical volumes (See Baranovsky et al. column 8, lines 36-67), and

the ELVID uniquely identifying the correct one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the correct one of the plurality of logical volumes on at least two of the plurality of storage systems (See Baranovsky et al. column 10, lines 1-51, also see Baranovsky et al. column 14, lines 30-51).

Baranovsky et al. does not teach an (ELVID) verifier module to verify that the logical volume corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address.

Hubis et al. teaches an (ELVID) verifier module to verify that the logical volume corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Baranovsky et al. to include an (ELVID) verifier module to verify that the logical volume corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Baranovsky et al. by the teaching of Hubis et al. to include an (ELVID) verifier module to verify that the logical volume corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address because it provides for security and to avoid error and corruption of information (See Hubis et al. column 1, lines 25-35).

As to claim 28, Baranovsky et al. as modified discloses comprising an ELVID database including ELVIDs for the plurality of logical volumes stored on the storage system and a

Art Unit: 2165

corresponding physical storage location (See Baranovsky et al. column 6, lines 32-65, also see Baranovsky et al. column 13, lines 6-28).

As to claim 29, Baranovsky et al. discloses a storage system for use in an enterprise comprising a plurality of storage systems coupled by a network, the plurality of storage systems to store a plurality of logical volumes, the storage system comprising:

a storage medium to store data corresponding to the plurality of logical volumes (See Baranovsky et al. column 10, lines 1-44, also see Baranovsky et al. column 14, lines 30-51), and the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems (See Baranovsky et al. column 13, lines 29-67).

Baranovsky et al. does not teach an enterprise logical volume identifier (ELVID) authorization module to verify that an access request to a physical storage location on the storage medium is received from an entity permitted to access one of the plurality of logical volumes with a corresponding ELVID.

Hubis et al. teaches an enterprise logical volume identifier (ELVID) authorization module to verify that an access request to a physical storage location on the storage medium is received from an entity permitted to access one of the plurality of logical volumes with a corresponding ELVID (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Baranovsky et al. to include an enterprise logical

volume identifier (ELVID) authorization module to verify that an access request to a physical storage location on the storage medium is received from an entity permitted to access one of the plurality of logical volumes with a corresponding ELVID.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Baranovsky et al. by the teaching of Hubis et al. to include an enterprise logical volume identifier (ELVID) authorization module to verify that an access request to a physical storage location on the storage medium is received from an entity permitted to access one of the plurality of logical volumes with a corresponding ELVID because it provides for security and to avoid error and corruption of information (See Hubis et al. column 1, lines 25-35).

As to claim 30, Baranovsky et al. as modified discloses comprising a storage medium holding an ELVID database (See Baranovsky et al. column 10, lines 17-51), the ELVID database including ELVIDs and entities permitted to access the one of the plurality of logical volumes corresponding to the respective ELVID (See Baranovsky et al. figure 7, shows "PV unique ID" in the PVG MAP).

As to claim 31, Baranovsky et al. discloses a computer system comprising:  
at least one host computer (See Baranovsky et al. column 8, lines 36-67);  
a plurality of storage systems that store a plurality of logical volumes (See Baranovsky et al. column 8, lines 36-67); and

means for receiving an access request to access data stored on one of the plurality of logical volumes, the access request specifying an enterprise logical volume identifier (ELVID) for the one of the plurality of logical volumes and a physical storage address for the one of the plurality of logical volumes that identifies one of the plurality of storage systems (See Baranovsky et al. column 6, lines 32-51, also see Baranovsky et al. figure 16, wherein “receiving an access request” reads on “source...target”); and

the ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems (See Baranovsky et al. column 10, lines 1-51).

Baranovsky et al. does not teach means for verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address.

Hubis et al. teaches means for verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address (See Hubis et al. column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Baranovsky et al. to include means for verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address.



It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Baranovsky et al. by the teaching of Hubis et al. to include means for verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems identified in the physical storage address because it provides for security and to avoid error and corruption of information (See Hubis et al. column 1, lines 25-35).

As to claim 32, Baranovsky et al. discloses a computer system comprising:  
at least one host computer (See Baranovsky et al. column 8, lines 36-67);  
a plurality of storage systems hat store a plurality of logical volumes (See Baranovsky et al. column 8, lines 36-67); and

the ELVID uniquely identifying the requested one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the requested one of the plurality of logical volumes on at least two of the plurality of a storage systems (See Baranovsky et al. column10, lines 1-51).

Baranovsky et al. does not teach means for verifying that access requests to the plurality of logical volumes using an associated enterprise logical volume identifier (ELVID) are made by an entity authorized to access the a requested one of the plurality of logical volumes.

Hubis et al. teaches means for verifying that access requests to the plurality of logical volumes using an associated enterprise logical volume identifier (ELVID) are made by an entity authorized to access the a requested one of the plurality of logical volumes (See Hubis et al.

column 3, lines 48-59, also see Hubis et al. column 4, lines 10-19, and see Hubis et al. column 13, lines 18-32, and see Hubis et al. column 12, lines 1-24).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Baranovsky et al. to include means for verifying that access requests to the plurality of logical volumes using an associated enterprise logical volume identifier (ELVID) are made by an entity authorized to access the a requested one of the plurality of logical volumes.

It would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Baranovsky et al. by the teaching of Hubis et al. to include means for verifying that access requests to the plurality of logical volumes using an associated enterprise logical volume identifier (ELVID) are made by an entity authorized to access the a requested one of the plurality of logical volumes because it provides for security and to avoid error and corruption of information (See Hubis et al. column 1, lines 25-35).

### ***Response to Arguments***

9. Applicant's arguments filed on July 7, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that "Baranovsky et al. does not teach or suggest ELVID uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes and being usable to access the one of the plurality of logical volumes on at least two of the plurality of storage systems" is acknowledged but not deemed to be persuasive.

The Examiner maintains that Baranovsky et al. in column 2, lines 35-45 discloses managing access to more than one physical device using logical volumes.

The Examiner finds no reference in the claim to having the plurality of storage systems to be construed as existing on more than one computer. The computer system of Baranovsky et al. discloses a plurality of storage devices as stated in the abstract.

The language of the claim specifically states starting with the preamble “one of the plurality of logical systems” and “one of storage systems” and “storing on one of” all indicating that the inventive steps are capable of being implemented within one system and that one system can be defined as one computer or a plurality of computers connected either in a LAN or WAN formation which is disclosed in Baranovsky et al. column 4, lines 30-46, and column 4, lines 63-67 (i.e. network).

In response to applicant’s argument that “Baranovsky et al. does not teach or suggest uniquely identifying the one of the plurality of logical volumes among the plurality of logical volumes” is acknowledged but not deemed to be persuasive.

The Examiner maintains that Baranovsky et al. in column 2, lines 51-54, and in column 5, lines 51-67, and column 6, lines 1-15, discloses global metadata and unique identifiers to track and maintain stored data. As in all storage systems, the location of stored data and path access must be unique in order to accurately retrieve and distinguish the stored data across plurality of physical storage devices. Baranovsky et al. also discloses that each physical volume (PV) within a physical volume group (PVG) has a unique identity within the PVG which is managed by the logical volume.

In response to applicant's argument that "Baranovsky et al. does not teach or suggest ELVID that uniquely identifies a logical volume among a plurality of logical volumes stored on a plurality of storage systems. There is no suggestion or disclosure in Baranovsky et al. that logical volume identifiers are unique across multiple storage systems or are even unique across multiple PVGs with a single computer" is acknowledged but not deemed to be persuasive.

The Examiner maintains that Baranovsky et al. in column 11, lines 1-35, discloses plurality of identifiers in combination of metadata to specify the location and data being stored across Baranovsky et al.'s system. In column 8, lines 8-34, and in column 10, lines 17-31, uniquely identified PVGs are disclosed. The unique identifiers are fully replicated within the system to accurately keep track of the data as taught in column 14, lines 46-51.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner is establishing motivation in obviousness in the knowledge generally available to one of ordinary skill in the art, to modify the invention of Baranovsky et al. with the teachings of Hubis et al. to disclose verifying that the one of the plurality of logical volumes corresponding to the ELVID is stored on the one of the plurality of storage systems

Art Unit: 2165

specified in the physical storage address and a computer mapping of the storage devices as explained in the office action and in Hubis et al. abstract, column 19, lines 3-16.

In response to applicant's argument that "in the system of Baranovsky et al. there is no physical address specified that the system can verify" is acknowledged but not deemed to be persuasive.

The Examiner points to Baranovsky et al. column 6, lines 32-51 wherein the physical address to the disk drive 42 conventionally takes the form of a five byte address. The Examiner maintains that the combination of Baranovsky et al. with the teachings of Hubis et al. discloses the argued limitation.

In response to applicant's argument that "Nowhere does Hubis et al. discuss verifying that the mapping between a logical volume identifier and the physical storage location of its corresponding logical volume is correct" is acknowledged but not deemed to be persuasive.

The Examiner maintains that Hubis et al. column 21, lines 1-16, and column 25, lines 1-15 to teach the argued limitation specifically granting or denying access to storage devices based on the mapping structure of the system. Hubis et al. in column 22, lines 11-32 discloses using unique identifiers to identify the mapping of storage devices to be stored in the memory.

### *Conclusion*

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074. The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/605,553  
Art Unit: 2165

Page 22

Neveen Abel-Jalil  
September 19, 2005

  
CHARLES RONES  
PRIMARY EXAMINER